

COVER FOR HOT TUB, SPA, OR THE LIKE

BACKGROUND OF THE INVENTION

The present invention relates to a cover for spas, hot tubs, and the like and more  
5 particularly to an improved core for such covers.

In order to provide insulation, limit pollution, and prevent the risk of accidents, it  
is desirable to cover the open top of a spa or hot tub. A conventional cover typically includes a  
foam material that is covered with fabric. These conventional covers are generally designed to  
cover the entire open surface of a hot tub, often having two separate halves capable of folding  
10 together to aid in removal of the cover.

Conventional hot tub covers have several disadvantages. First, the cover can  
become filled with water by a leak or other means, causing the cover to be excessively heavy.  
When this happens, the weight of the cover is greatly increased and removal becomes extremely  
burdensome. Second, in extreme cases, the foam core can become waterlogged, leading to  
15 interior bacterial growth and or weakening of the foam. Third, conventional covers support  
limited weight, especially if the core has become weakened. Children playing on the cover can  
break the cover and fall into the water. This risk is elevated if the children are relatively large or  
if they jump on the cover. Fourth, conventional covers tend to sag over time, especially if  
waterlogged, allowing standing water on the upper surface of the cover permitting undesirable  
20 bacterial growth.

## SUMMARY OF THE INVENTION

The aforementioned problems are overcome by the present invention wherein a cover for a hot tub or spa includes a structural, non-water absorbing plastic core.

5 In a preferred embodiment, the upper surface of the core slopes from the center of the cover to the perimeter of the cover to provide water run off.

In another preferred embodiment, the plastic core is ribbed to provide increased load bearing capabilities. The ribs improve the static load capabilities of the cover, and resist sagging. A foam or similar material may be injected between the ribs to enhance the thermal properties of the cover.

10 The present invention provides several advantages. First, the cover resists filling with water, avoiding the growth and weight problems associated with such water. Second, the core cannot become waterlogged. Third, the cover supports significantly increased weight, and therefore reduces the likelihood that a child will break the cover. Fourth, the cover provides water run off from its sloped upper surface; and the cover does not sag.

15 These and other objects, advantages, and features of the invention will be more fully understood and appreciated by reference to the detailed description of the preferred embodiment and the drawings.

## BRIEF DESCRIPTION OF THE DRAWINGS

20 Fig. 1 is a perspective view of the hot tub cover of the present invention installed on a hot tub.

Fig. 2 is a sectional view of a central portion of the cover taken along line 2 in Fig. 1.

Fig. 3 is a sectional view similar to Fig. 2 of an alternative embodiment of the cover.

Fig. 4 is a side view of the cover with portions of the vinyl jacket removed.

5                    DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

A hot tub in accordance with the preferred embodiment is shown in Fig. 1 and generally designated 10. It should be understood that the hot tub 10 may be rectangular (as shown) or any other desired shape. The cover 12 fits over the entire opening 11 of the hot tub 10. The cover 12 generally includes a vinyl jacket 14 and a plastic core insert 16. The vinyl jacket 14 encloses the core 16 and is conventionally sealed around the core 16. The core insert 16 includes a hinge 22 that allows the cover 12 to fold onto itself. The core insert 16 tapers from the hinge towards the periphery and includes a plurality of strengthening ribs 18.

The jacket 14 is well known and generally made of a marine grade vinyl, or another high-strength waterproof fabric. The jacket 14 is large enough to fit over a rigid core 16, and includes a front edge 24, rear edge 26, and an outer edge 28. In a preferred embodiment, the jacket 14 is capable of being sealed to completely enclose the core 16 by conventional means such as a zipper, sewing, or similar method (not shown) after the core 16 is inserted. The jacket 14 includes a section of extra material 15 approximately in the center capable of fitting within the hinge portion 22 of the core insert 16. The extra material 15 allows the cover 12 to fold in half. The jacket 14 may also include attachments (not shown) such as snaps that attach the cover 12 to the hot tub 10 when the cover 12 is installed.

The core 16 is preferably made from a thermoformable polymer such as ABS. The core is shaped to fit inside a corresponding vinyl jacket 12, such that the combination of

jacket 14 and core 16 fit over the opening 11 of a hot tub 10. The core 16 is a single piece of plastic, including opposing lateral portions 34 and 35 joined by a central hinge portion 22. Each lateral portion 34, 35 extends from an inner edge 20 to an outer edge 21 (shown in Fig. 4 on lateral portion 35 only). The outer edge 21 is in communication with the outer edge 28 of the jacket 14 when inserted in the jacket 14. The hinge 22 extends parallel to edges 20 and 21 from a front edge 36 to a rear edge 37 (not shown), so that the core 16 is foldable approximately in half. The front edge 36 and rear edge 37 are in communication with the front 24 and rear 26 edges of the jacket 14 respectively when the core 16 is inserted in the jacket 14.

In another preferred embodiment, the core 16 includes an upper surface 30, a lower surface 32, and a plurality of ribs 18 extending therebetween. As shown in Figs. 2 and 4, the ribs 18 generally run parallel to the hinge 22 and extend from the front edge 36 to the rear edge 37 of the core 16. In a preferred embodiment, the ribs 18 are evenly distributed between the hinge 22 and outer edges 34 and 36. In another preferred embodiment, each rib 18 has a height 38 that is uniform from the front edge 36 to the rear edge 37. However, the height 38 of each sequential rib 18 decreases from the hinge 22 toward the outer edge 20, such that the upper surface 30 and lower surface 32 converge approaching the outer edge 20 of the lateral portions 34 and 35.

In the preferred embodiment, the open spaces 40 between individual ribs are filled with air so the cover 12 retains heat in the hot tub 10 when installed. However, as shown in Fig. 3 the spaces 40 may alternatively be filled with an insulating foam 42 or other insulating material to further enhance the thermal properties of the cover 12.

In operation, the core 16 is inserted into the jacket 14. The core 16 may be a replacement for a used core insert, such that it is inserted into an existing used jacket, or the core

16 may be inserted into a brand new jacket 14 of the desired dimensions. The jacket 14 is sealed about the insert 16 and placed over the opening of a hot tub 10. Removal of the cover 12 consists of folding the cover 12 back about the hinge 22 and pulling the cover off the hot tub 10.

5 The above description is that of a preferred embodiment of the invention. Various alterations and changes can be made without departing from the spirit and broader aspects of the invention as defined in the appended claims, which are to be interpreted in accordance with the principles of patent law including the doctrine of equivalents. Any reference to claim elements in the singular, for example, using the articles “a,” “an,” “the” or “said,” is not to be construed as limiting the element to the singular.